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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/987,671	11/15/2001	Koji Tanimoto	Q67208	7499

7590

04/30/2003

SUGHRUE, MION, ZINN, MACPEAK & SEAS  
2100 Pennsylvania Avenue, N.W.  
8th Floor  
Washington, DC 20037

EXAMINER

THOMPSON, JEWEL VERGIE

ART UNIT

PAPER NUMBER

2855

DATE MAILED: 04/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.



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# Office Action Summary

Application No.

09/987,671

Applicant(s)

TANIMOTO ET AL.

Examiner

Jewel V Thompson

Art Unit

2855

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☒ Claim(s) 3 and 4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Tohyama (6205854).

Regarding claim 1, Tohyama et al teaches the aspects of the claimed invention, a thermo sensitive flow rate detecting device comprising:

A heat generating resistor (RH), provided in fluid to be measured, a first temperature detecting resistor (RK), a second temperature detecting resistor (RM); a bridge circuit (100) having the first temperature detecting resistor (RK) and the second temperature detecting resistor (RM) electrically connected together therein (fig. 3), the bridge circuit being adapted to control a heating current of the heat generating resistor to maintain a constant temperature difference between the first temperature detecting resistor and the second temperature detecting resistor, wherein the flow rate within the fluid to be measured is detected by using the heating current, and wherein the bridge circuit receives a voltage that is proportional to the heating current of the heat generating resistor (fig. 3, 100, col. 8, lines 40-50).

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tohyama (6205854).

**Regarding claim 2,** Tohyama et al teaches a differential amplifier connected directly to the bridge circuit (100). Toyama et al failss to explicitly teach that the differential amplifier is adapted to divide a voltage across the heat generating resistor and output the divided voltage to the bridge circuit, wherein the second temperature detecting resistor is maintained at a constant temperature that is higher than a temperature of the first temperature detecting resistor and the heat generating resistor is maintained at substantially a same temperature as the second temperature detecting resistor. However, it would have been obvious to one skilled in the art at the time that the invention was made to have the first and second temperature sensors of Toyama et al to remain the same for the purpose of balancing the bridge circuit. The bridge circuit has to be maintained at a constant temperature in order to determine the flow rate of the fluid in the flow.

***Allowable Subject Matter***

3. Claims 3 and 4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. The following is a statement of reasons for the indication of allowable subject matter: The references neglect to teach and to make obvious the thermo-sensitive flow rate detecting circuit further comprising a first partial resistor having a first end connected to an input terminal of the differential amplifier and a second end connected to a first end of the heat generating resistor; and a second partial resistor having a first end conned to the input terminal of the differential amplifier and a second end connected to second end of the heat generating resistor; and a second partial resistor having a first end connected to the input terminal of the differential amplifier and a second end connected to ground potential.

***Response to Arguments***

Art Unit: 2855

5. Applicant's arguments with respect to claims 1 and 3 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jewel V Thompson whose telephone number is 703-308-6726. The examiner can normally be reached on 7-4:30, off alternate Mondays.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on 703-305-4816. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3432 for regular communications and 703-305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-1134.



jvt

April 2, 2003



EDWARD LEFKOWITZ  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800